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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

LAMBRECHT, CHRISTOPHER M

ART UNIT PAPER NUMBER

2611

DATE MAILED: 07/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/046,300

Applicant(s)

MATSUURA, SYUUJI

Examiner

Christopher M. Lambrecht

Art Unit

2611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 March 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1 and 7 have been considered but are moot in view of the new ground(s) of rejection.

Applicant submits at paragraph three on page nine of the reply filed 17 March 2005 that the mixed down to a second intermediate frequency is a signal received from an amplifier and not from a "SAW filter", and, that there is nothing in Vorenkamp that discloses a "SAW filter for selecting the first intermediate frequency signal output from said up converter" and then the selected signal from the SAW filter is converted by a "down converter" to a "second intermediate frequency signal of a lower frequency for output."

In response, Examiner submits that the "mixed down to a second intermediate frequency" of Vorenkamp is received from a bandpass filter (BPF located between IF amplifiers 514 and 516, fig. 5). The bandpass filter serves to select the first intermediate frequency signal output from said up converter (note that said filter is located in a portion of the signal path labeled "first intermediate frequency", and as detailed in paragraph [0124] of Vorenkamp, one or more filters in a given "IF strip" are used to select the signal passed therein). The signal is then passed through IF amplifier 516 before being received by second mixer 508 for down conversion to the lower, second intermediate frequency for output. The mere fact that the "mixed down to a second intermediate frequency" is received from said bandpass filter via IF amplifier 516 does not negate the fact that said signal is indeed received from said bandpass filter, contrary to Applicant's implication.

Therefore, the cited portions of Vorenkamp very clearly disclose a bandpass filter for selecting the first intermediate frequency signal output from said up converter and then the selected signal from the bandpass filter is converted by a down converter to a second intermediate frequency signal of lower frequency for output. As stated in prior Office actions, and reiterated herein again, the above cited

Art Unit: 2611

portions of Vorenkamp do not explicitly recite that said bandpass filter is a SAW filter. However, as evidenced by other portions of Vorenkamp, SAW filters are well known in the art for numerous benefits (detailed in the rejection of claim 7 below), and as such it would have been obvious to one of ordinary skill in the art to implement the bandpass filter referred to above as a SAW filter, in order to achieve these benefits in the receiver circuitry disclosed by Vorenkamp. Accordingly, Examiner submits that the claimed limitations are met by the teachings of Vorenkamp, as set forth in the rejection of claim 7 detailed below.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by “Gain Programmable CATV Line Driver AD8321” Analog Devices, 1999 (hereinafter “Analog Devices”).

Regarding claim 1, Analog Devices discloses a cable modem tuner comprising an upstream circuit (see Functional Block Diagram, p. 1) for transmitting a data signal to a CATV (cable television) station (p. 1, “Description”, ¶1), wherein

said upstream circuit includes

a gain controllable gain control circuit (attenuator core, Functional Block Diagram, p. 1; “Description”, ¶2) receiving said data signal (p. 8, “Applications”, ¶1),

at least one power amplifying circuit (PWR Amp, Functional Block Diagram, p. 1) power-amplifying the data signal having been gain controlled by said gain control circuit (“Description”, p. 1, ¶2), and

Art Unit: 2611

a control circuit (Power-down/Switch Inter, Functional Block Diagram, p. 1) transmitting a control signal to said at least one power amplifying circuit (PWR Amp) for controlling transmission/interruption of said data signal ("Operational Description", p. 8, left column, ¶¶2-3; "Applications", p. 10, right column, ¶1).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Vorenkamp (of record) in view of Analog devices.

With regard to claim 7, Vorenkamp discloses a cable modem tuner (5508, fig. 55) including upstream circuit for transmitting a data signal to a CATV station and a receiving a down signal from said CATV station (¶0401), comprising:

a duplexer for branching the data signal to said CATV station and the down signal from said CATV station (where transceiver 5508 separates a bidirectional signal supplied to/from headend 5514, it inherently comprises a duplexer); and

a return pass circuit (5514, fig. 55, ¶0401) outputting said data signal to said duplexer;

said receiving unit receiving the down signal branched by said duplexer (receiver circuits, ¶0401), wherein said receiving unit includes

an up-converter (fig. 5, 506, 514, FIRST LO) for converting said down signal to a first intermediate frequency signal of higher frequency (pg. 7, ¶118),

Art Unit: 2611

a bandpass filter for selecting the first intermediate frequency signal output from said up converter (BPF located between 514 & 516 in the signal path, fig. 5), and

a down converter (516, 508, SECOND LO, 518, BPF located immediately after 518 in signal path, fig. 5) converting the first intermediate frequency signal selected by said filter to a second intermediate frequency signal of lower frequency for output (pg. 7, ¶118).

Additionally, Vorenkamp discloses the use of a SAW filter for the benefit of better rejection (¶0373), and furthermore forming a bandpass filter of an oscillator circuit (¶0235) including a print coil (¶¶0257-8, and fig. 28), for the benefit of better selectivity (¶0257).

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement said bandpass filter of with a SAW filter formed of an oscillator circuit including a print coil, as taught by Vorenkamp, for the benefit of achieving better rejection and selectivity.

Vorenkamp fails to explicitly disclose said upstream circuit includes a gain controllable gain control circuit receiving said data signal, at least one power amplifying circuit power amplifying the data signal having been gain controlled by said gain control circuit, and a control circuit transmitting a control signal to said at least one power amplifying circuit for controlling transmission/interruption of said data signal.

In an analogous art, Analog devices discloses a cable modem upstream circuit comprising a gain controllable gain control circuit (attenuator core, Functional Block Diagram, p. 1; "Description", ¶2) receiving said data signal (p. 8, "Applications", ¶1),

at least one power amplifying circuit (PWR Amp, Functional Block Diagram, p. 1) power-amplifying the data signal having been gain controlled by said gain control circuit ("Description", p. 1, ¶2), and

a control circuit (Power-down/Switch Inter, Functional Block Diagram, p. 1) transmitting a control signal to said at least one power amplifying circuit (PWR Amp) for controlling transmission/interruption of said data signal (“Operational Description”, p. 8, left column, ¶¶2-3; “Applications”, p. 10, right column, ¶1), for the benefit eliminating the need for external impedance terminations.

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Vorenkamp include a gain controllable gain control circuit receiving said data signal, at least one power amplifying circuit power amplifying the data signal having been gain controlled by said gain control circuit, and a control circuit transmitting a control signal to said at least one power amplifying circuit for controlling transmission/interruption of said data signal, as taught by Analog Devices, for the benefit eliminating the need for external impedance terminations.

Art Unit: 2611

Conclusion

6. The following are suggested formats for either a Certificate of Mailing or Certificate of Transmission under 37 CFR 1.8(a). The certification may be included with all correspondence concerning this application or proceeding to establish a date of mailing or transmission under 37 CFR 1.8(a). Proper use of this procedure will result in such communication being considered as timely if the established date is within the required period for reply. The Certificate should be signed by the individual actually depositing or transmitting the correspondence or by an individual who, upon information and belief, expects the correspondence to be mailed or transmitted in the normal course of business by another no later than the date indicated.

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Please refer to 37 CFR 1.6(d) and 1.8(a)(2) for filing limitations concerning facsimile transmissions and mailing, respectively.

Art Unit: 2611

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher M. Lambrecht whose telephone number is (571) 272-7297. The examiner can normally be reached on 9:30 AM - 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher Grant can be reached on (571) 272-7294. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Christopher M Lambrecht
Examiner
Art Unit 2611

CML


HAITRAN
PRIMARY EXAMINER